COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS.

U. S. Department of Agriculture,
and State Agricultural Colleges,
Cooperating.

States Relations Service,
Office of Cooperative Extension Work,
Washington, D. C.

CONFERENCE

OF

SPECIALISTS IN AGRONOMY

OF

NEW ENGLAND, NEW YORK, PENNSYLVANIA

NEW JERSEY, and DELAWARE

SPRINGFIELD, MASSACHUSETTS

FEBRUARY 23 - 25, 1922.

SUMMARY OF THE DISCUSSIONS

158-SRS

FOREWORD

In accordance with the authorization given by the Agronomy Specialists Conference at Springfield, Massachusetts, February 23 to 25, 1922, the committee begs to submit herewith a summary of the more important discussions presented at the conference. The committee believes that this summary constitutes a helpful contribution to our knowledge of extension work. It has been necessary to modify the material somewhat, for the most part by way of abbreviation; but we trust that we have not seriously lessened the value of the material by so doing.

We are indebted to the men taking part in the conference for so cheerfully sending in statements of material presented by them. On account of the demands on the time of the specialists some of the material has been slow in reaching us, which partially accounts for the delay in issuing this summary. We are also indebted to the States Relations Service for its courteous offer to mimeograph this summary and distribute it to each member of the conference. It should be stated here that the set of resolutions containing the high lights of the meetings which were adopted by the conference have already been mimeographed and distributed by the States Relations Service to all members of the conference.

THE COMMITTEE

H. R. Cox, New Jersey, Chairman.

Nickolas Schmitz, Pennsylvania.

E. P. Robinson, New Hampshire.

HOW SHOULD A SPECIALIST DETERMINE THE AGRONOMY PROGRAM OF WORK FOR THE STATE.

J. B. Abbott, Massachusetts.

There are two prerequisites to the determination of an agronomy program of work for a State by a specialist. The first is accurate visualization and sympathetic comprehension of the agriculture of the State, both as it exists at present and in its apparent economic trend. The second is recognition of the fact that the existing system, however inefficient it may appear to be, has been evolved under the controlling pressure of economic conditions during a long period of time and has survived in open competition with other possible systems, which in itself is strong presumptive evidence that it has some merits.

In view of this survival of the existing system in the face of an ever growing flood of advice to change it, it would not appear to be wise to condemn it off-hand and propose the substitution of something radically different, solely on agronomic grounds, as there are other important and sometimes controlling factors which shape the agricultural practices of a region.

Proper visualization of the agriculture of a State requires statistical and economic study of census reports and similar data as well as travel and field study. Census reports are particularly helpful in determining the distribution and relative importance of various crops and the economic trend by ten-year periods.

The first step in the actual determination of an agronomy program is tabulation of all the problems which appear to be of sufficient importance to warrant attention. The next step is selection, for demonstration of improved practices, of a few of the most important things with respect to which the improved practices are near enough to present practices, both in character and cost of initiation, to render a transition reasonably possible. Progress in such matters can be made only a step at a time, and it is of vital importance to demonstrate the nearest step first.

The use of census reports may be illustrated by indicating very briefly how they were used in determining the Massachusetts program. In Massachusetts feed and forage crops (except silage and fodder corn) make up 50. 8 per cent of the total field crop value; all corn 16.5 per cent, tobacco 13.8 per cent, potatoes 13.5 per cnet and all small grains together only 1.5 per cent. Further analysis of the census data leaves no room for doubt as to the relative importance of various crops and brings out the further facts that the feed crops are grown almost exclusively to feed dairy cows and farm teams and that they fall far short of being adequate for present needs. In the light of these facts and knowledge of conditions in the field, determination of the work to be undertaken with each crop is a relatively simple problem.

The soil fertility aspects of the program are best considered in relation to the farming system as a whole rather than merely in connection with specific crops or soils.

(The Massachusetts agronomy program in full was given as illustrative material but is omitted here on account of lack of space.)

HOW CAN THE SPECIALIST SERVE THE AGRONOMY NEEDS OF THE STATE BY ORGANIZATION.

A. K. Gardner, Maine.

The general plan in Maine is for the specialist to draw up a tentative program of work with the county agent. The county agent at the community committee meeting attempts to draw out the local committee as to the important needs in the community and to sell those parts of the county plan which seems best adapted to meet these needs. Goals are set at this time as to the number of different demonstrations for the community. From the summary of community analyses, the county project program is definitely adopted and is comprised of such pieces of extension work as are more or less general throughout the various communities.

At the community program planning meeting in the winter, the county agent plans to sell the same program that was adopted at the community committee meeting. The project leaders are elected where the project is adopted and they assist in arranging meetings, in securing demonstrators and stimulating interest in the project.

For the most part the specialist's work has to do with the county agent and by a system of reporting and by personal visits, he keeps in touch with the progress of the work in each county. The cooperation of the project leaders makes it possible to carry a larger number of demonstrations than would otherwise be the case.

J. H. Barron, New York.

In discussing the organization of an agronomy program it is fair nowadays to assume that a state presents a more or less well organized farm bureau system. The problem then is how can a specialist function in such a system.

A specialist's first function consists of organizing his program and getting his various projects in such shape that they can be presented. In doing this he becomes a student. As he is looked upon as the guide in his particular field of endeavor he must necessarily study. He studies the literture for the new developments. He studies the State and its agriculture for its needs and to determine where the weak places are and where improvement is possible. When he has done this kind of work sufficiently long he has a program within his field that is sound, well rounded, and logical in view of prevailing conditions, if he is a real specialist, one who is fitted to occupy the place. He now is ready to organize.

In the following discussion of organizing projects a New York point of view must necessarily prevail. It consists in presenting how projects have been organized in New York and how they will be organized in the immediate future as the farm bureau organization is built up into a better functioning organism.

A county farm bureau, in the first place, orgainzes its program. The organizing body consists of the various local committeemen. They decide that various general lines of work, such as soil improvement, pasture improvement and poultry, shall be undertaken within a particular county. The committeemen in their meeting designate a certain number of individuals to look after a particular line of work, as, for instance, pasture or poultry. These constitute a county project committee.

The county project committee along with the county agent holds a meeting attended by the specialist. At this meeting the committee present to the specialist their idea of the county program within a particular field. The specialist informs the committee how he thinks the particular program should be attacked. Thus finally a program along certain definite lines is agreed upon. At such meetings a function of the specialist also is to bring before the committee for its consideration some things which the committee may not have thought of and which from the point of view of the specialist were worth while, and if he is a real specialist his opinion is worth consideration. In this way committees may be induced to take up new lines of work and things which to them had not seemed important or which had escaped their knowledge. The endeavor is always to have the committee develop the program.

In sections where the work is developed most intensively there are now beginning to be community project committees. The specialist meets them in conjunction with the county agent and functions with them in the same way as in meeting a county project committee.

In counties where project committees do not exist, the specialist, if he is sure he has something to offer which is of real worth to the particular county, should spend some time with the county agent, giving him his point of view, his information, his inspiration. In this way the county agent is brought to aid him in establishing a program which in a short time may become important and may lead to the development of project committees, county wide or community wide.

With a program projected and started in several counties or on a state-wide basis including one or more important lines of projects, what is the further procedure on the part of the specialist? He prepares outlines for the guidance of the county agent and the project committees. He prepares general and special news articles which may be informative or which may serve to awaken interest in the project. In sections where a piece of work which is on the county program is important and where by local endeavor it is not going satisfactorily the specialist may take on himself a promotional function and attend meetings which have for their object promoting interest in that piece of work.

As a general rule it is not to be expected that the specialist will assume responsibility for the field demonstration. For the most part that is the function of the county agent. The specialist's outlines should not make necessary his direct supervision except on a few of the more technical demonstrations. His functions, however, is to be in the field sufficiently to know that his demonstrations are going. He also is obligated to assist the inexperienced county agent in initiating his program or any new demonstrations with which he may not be familar.

The specialist's further function is to attend as many field meetings on demonstrations as his program will permit. This is important because the specialist from out of his experience can use a demonstration to good advantage. He in his teaching is not limited to the results shown by a single demonstration or demonstrations located with a limited area.

The specialist has a still further function. He must bring about the contacts or cooperation that will bring the project to its full fruition. If he demonstrates that hardy alfalfa seed is good, his function is not completed. If the seed dealers in his state do not handle such seed, or, pretending to handle it, sell a different article, he must work out a plan whereby the farmers in the state can get the genuine article. If a specialist shows that lime is needed in a particular section his job is not completed until he makes available to that community the cheapest supply available, be that a commercial supply or a supply that can be developed locally. Thus the completion of an initiated program, involves contact with established business organizations or the fromation of organizations for specific purposes.

HOW CAN THE AGRONOMY SPECIALIST COOPERATE WITH OTHER EXTENSION AGENTS.

M. P. Pence, Delaware.

Reports of previous extension conferences of county agent leaders and extension directors were reviewed to show the development and conception of relationship which should exist between the specialists and other extension agents.

The following suggestions are offered, subject to the variation in the organization of the work in the different States:

1. Cooperation With The County Agent Leader.
   Should be accomplished:
   (a) By regular conferences to discuss county program, progress of work, difficulties and means of overcoming them.
   (b) By supplying project outlines and all changes in plans or program.
   (c) By furnishing progress reports and summaries of all work completed

2. Cooperation With County Agents.
   Should be brought about:
   (a) Through presentation of agronomist's State program of work at county agent conferences.
   (b) By furnishing project outlines of each phase of the State program.
   (c) By meeting with project and community committees together with the county agent to develop county and community programs of work in agronomy.
   (d) By supplying the county agent with subject matter covering agronomy projects; furnishing publicity material for county papers and farm bureau news, as well as furnishing record blanks.
   (e) By developing an itinerary for the specialist's visits and a cooperative calendar of work.

3. Cooperation With the Junior Extension Agents.
   Should consist of:
   (a) Preparing or supervising and approving record blanks, follow up literature, methods of measuring yields and group demonstration material.
   (b) The establishment of young men in the growing of good seed for general distribution.

HOW CAN THE AGRONOMY SPECIALIST COOPERATE WITH SPECIALISTS IN RELATED SUBJECTS.

E. L. Worthen, New York.

The discussion brought out four main essentials of successful cooperation between subject-matter specialists in related lines. They were:

1. Familiarity with programs of specialists in related subjects. This will necessitate occasional conferences between specialists associated with different subject matter departments. Specialists are thrown together enough at winter meetings so that they can become familiar with each other's program.

2. Avoidance of duplication of field demonstrations and full agreement as to subject matter where programs necessarily overlap.

3. Let service to agriculture be the chief incentive for work.

4. Be above petty jealousies and go more than half way in true cooperation.

HOW CAN THE AGRONOMY SPECIALIST COOPERATE WITH PRODUCTION ASSOCIATIONS AND OTHER AGENCIES.

The opening discussion by A. L. Bibbons, G. L. F. Exchange, is not included here. The following is the supplementary discussion by J. H. Barron, New York.

Demonstrations which show a certain thing like Grimm alfalfa seed to be good and then leave farmers to the mercy of the trade are not finished. When New York State recommended Grimm alfalfa all the seedsmen accomodatingly had that variety, but unfortunately it often was not genuine. This condition brought trouble and made many feel that the recommendations were not correct. Recommendation of varieties of seed without assurance that farmers can get the genuine article mean nothing. Cooperation with responsible agencies must be given. If a program goes across the specialist must not only demonstrate that a thing is good but he must aid if necessary in making it available.

THE DEMONSTRATION--CHARACTER OF THE DEMONSTRATION.

H. R. Cox, New Jersey.

There are two types of agronomy demonstrations, the field demonstration and the manual process demonstration or practicum. In the latter class might be included the home mixing of fertilizers, inoculation, seed treatment for smut, and others. Most demonstrations in agronomy, however, are of the former class.

The specialist has the responsibility of seeing to it that the county workers have fairly complete information on the following points:

1.. As to whether the project is a sound, timely and appropriate one for the county or community.

2. As to the number of demonstrations under the project that are practicable to put on. Some county agents are inclined to conduct more demonstrations than are necessary; but sometimes they are inclined to put on too small a number for best results.

3. As to the general plan of conducting the demonstration so as to bring out as clearly as possible and in as simplified a manner as possible the truth which is to be taught. Many demonstrations are made unnecessarily complicated.

The information on these points may best be conveyed to the county workers by personal contact; much of it may be discussed and settled in project committee meetings attended by the specialist. It may also be conveyed by project outlines or project memoranda. The project outline or demonstration outline should state in detail the methods of conducting the demonstration properly; it should also state the division of responsibility.

The specialist may be of help to the county workers in many other ways. He is usually in a better position to locate reliable sources of seed and other demonstration material than the county agent. He can do this for all the counties which are carrying on a given project.

In choosing a location for a field demonstration select with reference to the man; The uniformity of soil, and the publicity value. In connection with soil the history of the land, expecially as regards the use of fertilizers, lime, and manure, should be considered.

Frequently a field will contain the lesson to be taught and is in reality a ready made demonstration. For instance, a successful field of alfalfa, or, better yet, a farm containing several fields of alfalfa, may well be adopted as a ready made demonstration. In New Jersey a number of successful field meetings have recently been held on such farms.

THE DEMONSTRATION--THE VALUE OF A PROJECT OUTLINE.

J. S. Owens, Connecticut.

There are four purposes in making a definite outline of a project:

1. The specialist himself needs to make a clear statement of his aims and methods in any given line or work to avoid miscellaneous, aimless procedure. The clearer this program is thought out and defined the better he will be able to measure his progress at the end of any given time and the better he will be able to coordinate what has been done with plans for the future.

2. If a method of procedure is developed and followed the specialist will be the better able to aid with field operations and in following up the work done by county agents.

3. The county agent needs such a project outline so that he may thoroughly understand the problem as the specialist sees it and also to aid in his developing the project.

4. The farmer needs a clear, yet simple, statement of the purposes and method to be used in carrying on the demonstration as so to arouse and maintain his interest.

The project outline should include a clear and complete statement of the purposes of the demonstration. It should contain sufficient directions for carrying on the field work so as to maintain uniformity and eliminate as much error as possible. This outline and method of procedure should be very simple so that the farmer as well as the county agent and specialist may follow it. It is possible that in many cases separate directions might be given to

the farmer. In no case should such directions be given onlyverbally as the farmer will need a printed statement for refefence. A division of the duties for the farmer, county agent and specialist is often desirable. We have in some cases written down this division of duties on the project outline with the dates for doing specific caretaking. In case of the field plot or the pasture with top dressing a simple diagram showing size of areas and location is invaluable to avoid error. Permanent markers may frequently be desirable.

While some detail in the outline is essential for efficient work, complications and exhaustive outlines and directions, such as is used by the experiment station, is certainly undesirable. The greater simplicity for the statement of problem and method of procedure the better. The outline is primarily to aid in the performing of field operations with greater efficiency and for creating more interest on the part of the farmer, and it is not to such a large degree the means for securing acurrate field data.

The New York State representatives distributed some of their demonstration outlines and field record sheets. This system would have an advantage of less bulk when a number of outlines were kept together but it would also have the disadvantage of not having the purpose and method kept before the workers continually. There was some discussion as to the failure of using outlines after they were prepared. This may be overcome in part by making the outline simple and in usable form, such as used by Pennsylvania, prepared as small booklets to be inserted in loose leaf notebooks.

THE DEMONSTRATION--SPREAD OF PRACTICES DEMONSTRATED.

E. P. Robinson, New Hampshire.

1. The successful extension agent, considering the means of introducing a practice that should be followed by farmers but is not, looks deeply into the situation to ascertain if possible why the practice has not been adopted before. He frequently finds that something other than the method and the value of the practice must be demonstrated. He finds perhaps that the problem involves the whole reorganization of the farm. Therefore, the spread of influence of the demonstration depends upon finding the right thing to demonstrate.

2. The spread of influence of demonstrations varies with the nature of the demonstration. Comparatively simple practices such as culling poultry, applying lime, mixing fertilizers, should be expected to be rapidly extended, and where properly conducted and supplemented with thorough publicity this result does follow.

Farmers more readily take up with practices related to new enterprises than they do to modifications of the old methods they have been following. For instance it is easier to get farmers to follow instructions in regard to growing alfalfa, soybeans, or sudan grass than it is to get them to change their methods of growing corn or handling manure.

3. The extension agent finds that organization plays a very important part in the rapidity with which the advantages of demonstrations are realized b the mass of the farmers. The general use of lime is dependent not alone upon the demonstrations of its value but also upon the system of distribution which makes it easy for farmers to get it at a reasonable price. The practice of usinggood seeds is extended not alone by demonstration of their value but also by providing a means of securing those better seeds.

To summarize: The successful extension agent studies carefully to ascertain what hinders the practice of certain advantageous methods and then adapts his demonstration to that problem, he makes the demonstrations as simpl as possible, he uses publicity effectively in making them as widely known as he can, and finally he assists in organizing the machinery that will help to exter rapidly the benefits of the practice demonstrated.

THE DEMONSTRATION--PUBLICITY.

J. B. R. Dickey, Pennsylvania.

Field Meetings. Our most popular type of summer field meeting is the "twilight meeting" started about 6:30 or 7 o'clock. The first essential is to get a crowd, at least those who are or should be interested. The averag farmer will not take the time to come to an afternoon field meeting, or if he does come he is in a hurry to get away and not in as receptive a mood as in the evening. There is then still light enough to see the results, and the discussi may continue as long after dark as desired. Twilight meetings give time to get the yields weighed and calculated before the crowd arrives, thus avoiding delay Corn variety test meetings in the fall are generally held in the afternoon, and the crowd helps finish the harvesting and weighing, thus lightening the job for the county agent and cooperator. At this time of the year work is not so press ing and farmers will take a half day off. In cases such as pasture demonstrati meetings two meetings are sometimes held in the mornings abd two in the afternoon, making it possible for the specialist to cover a number of meetings in a day. Such meetings are short, do not draw such large crowds, and can be held when farmers are not excessively busy.

Auto excursions seem best when short and confined to one subject, such as potatoes or alfalfa. A half day is enough to visit several farms near each other and bring out the various phases of the work without any distraction loss of time, or long tiresome drives. Where several subjects are taken up the crowd is often too large, many are not interested in some of the stops, and the tour becomes more social than educational. Many who should go, and would go on a short trip, will not go along; or if they do go they get only a lot of confused ideas. Too many stops are often scheduled, some of which are unimportant

resulting in too much hurrying. A general your and picnic may be desirable from a social standpoint but several short tours on special subjects accomplish more in actual results.

Advertising of meetings and tours is often inadequate. Notices in local papers, posters in country stores, and post cards sent to a selected list of farmers a few days previous to the meeting should all be used.

Signs on demonstrations where publicly located are the best kind of publicity. They tell not only what is going on but advertise the farm bureau and its work. They need not go into great detail; if they arouse the farmer's interest he will get the details by asking the cooperator or by attending the field meeting when it is announced. A farmer will get more by observing a demonstration advertised by a sign than by simply reading the published results. Signs should not be put up till the demonstration shows up well. If the plot is not on the road a brief sign at the entrance to the farm telling what is being done will arouse interest and lead to a visit or inquiries.

Signs may be permanent and moved to other demonstrations another year. For a variety demonstration all that is necessary to state is "Variety Demonstration" and the cooperating parties. The same sign may be used for any crop. These signs may be made in quantity and sent out by the central office at lower expense. Another type is the temporary sign which can be printed or stenciled on light cardboard and will last one season, such as "Penna. 44 Wheat Grown on This Farm, Secured through County Farm Bureau."

News Articles connected with demonstrations are of two types: (1) Those which give the results of the demonstration or test, and (2) those especially designed to spread the practice demonstrated. The latter should appear at opportune times and may review the results of demonstrations. Thus on top dressing the second type of article should come out early in spring when the farmer is ordering his fertilizer, reminding him of the demonstration and telling possibly where he can get the material, its approximate cost this year, and the best method of application.

Other news articles need not be connected necessarily with demonstrations, as, for instance, warnings against use of imported alfalfa seed and against misrepresentation and exhorbitant prices of certain fertilizers or limes.

The specialist may furnish the county men with prepared articles at regular intervals for their publications or newspapers, or he may send them such material only when he thinks it especially necessary or opportune. The latter is more apt to be taken seriously and the tendency of the county agent may be to depend too much on material of the former class if it is regularly forthcoming. County agents should be encouraged to ask for articles or suggestions and advice on articles regarding subjects which they think should have publicity.

Supplementary Discussion By
J. H. Barron, New York.

Field meetings on crops are most effective. Such meetings almost always come when farmers are busy. Hence those who are present come because they are interested. Summer meetings that are short and snappy, held from 12:30 P. M. to 1:30 P.M. and from 6:30 P.M. until dark, have proven very effective.

Small community auto trips visiting two or three demonstrations in a community are effective. The crowd is not too large to teach, the interest is on the subject being taught rather than the trip, and the people do not become too tired and excited to prevent the absorption of knowledge. A county agent and a specialist can conduct two or three such trips in a day and do effective teaching. Calling attention to such trips does not necessarily condemn the county-wide trip with its large crowd and its spectacular features.

WHAT KIND OF A RECORD SHOULD THE AGRONOMY SPECIALIST KEEP.

O. S. Fisher, Washington, D. C.

In the short time given to the discussion of this topic I will not endeavor to touch the question of daily or weekly records, but confine myself entirely to a discussion of the type of permanent record an agronomy specialist should leave for use in future years for himself or his successor.

I wish to make one statement that perhaps should be the close rather than the opening of this discussion. If a specialist has spent two years or more at an institution and resigns without leaving behind him a rather complete permanent record of his work, especially of the demonstrations that have been carried on over the State, it is my feeling that the State that has paid his salary has not received full value for its money.

I believe we should feel the responsibility of keeping in our office a rather complete permanent record, fairly up-to-date, of what demonstrations we have conducted, with what county agents we have cooperated, the name and accurate location of the farmer on whose farm the demonstration has been conducted, and something with regard to the success or failure of the demonstration.

I realize that the matter of keeping records is irksome, and that it is sometimes difficult to get county agents and farmers who are willing to put on demonstrations to realize the need of keeping a record if the demonstration is to be of the greatest value. Possibly some time could be profitably spent by the specialist in getting the cooperator and the agent to understand that the matter

of the permanent record is just as much a vital part of the demonstration as proper planting and harvesting.

In almost every State we find instances where a presumably good specialist has after two or three years left the State without apparently any record as to where demonstrations were conducted either in counties or communities; and when we consider the rapid turn-over in county agents we realize the very great loss that such a lack of records would make in a State.

In keeping a permanent record of demonstrations it seems to me that possibly it would not be necessary to keep a record of all the demonstrations that might be conducted in the county on any one project. But a record should be kept of the demonstrations put on with the important leaders in every county; the other demonstrations might be listed as "spread of influence" demonstrations. It seems to me that if an outstanding leader in a county or community puts on a demonstration he would rightfully expect to be considered in the future when such work was discussed or additional demonstrations were being planned.

If, as often happens, both agent and specialist change, it is easy to conceive how a new specialist going into a county with no record to guide him might entirely ignore these important leaders and not only lose the benefit of their cooperation and the records of the work they had already done, but by unconsciously ignoring these people, the benefit of their help in other extension activities might possibly be lost.

In order that we may have something definite before us for discussions, I have prepared some suggested outlines for the permanent record. This suggested outline is in three parts-- a card for keeping notes while in the field, an outline of the record that the specialist would keep in his own office, and an outline of the record that could be kept in the agent's office.

The card is simply in the nature of a memorandum that the agent would use in jotting down information which would be desirable to use in making out a permanent record in the office. The permanent project outline record would give the date, name of specialist, name and location of the cooperator, and a short statement of the project. Space is left below for a record of visits to the demonstration, with space for a short statement of what was done or conditions. At the bottom of the page is a place for record of the number of people visiting the demonstration, demonstration meetings, and the number in the community adopting the practice. One of these should be filled out for each demonstration which was put on by the specialist and county agent. The sheet to be filled out for the agent's office would in addition carry a space for a list of all the demonstrations of this one project that were being conducted in the county.

In addition to this outline of the record, the most important demonstrations probably should have a rather carefully written report going into detail as to the conditions and results of the demonstration. Whenever it is possible for such a report to contain pictures of actual conditions on these demonstrations I believe it would be helpful. I have here a sample record taken

from the report of Mr. Stewart, the agronomy specialist in Nebraska. This record seems to me to be complete enough to furnish all the information needed in the future reagrding these demonstrations.

I find that a number of specialists are making use of outline State maps in keeping record of their demonstration work. This method would seem very helpful in showing the distribution of the various projects over the State and would help the specialist in determining places where possibly the demonstrations were needed but had not been put on for various reasons.

It would seem that the specialist should make it part of his duty to see that a rather complete record was on file in the county agent's office of the demonstrations that had been conducted in his own projects. It would seem that it should be possible to go into the files in an agent's office and in a very few minutes determine the number and distribution of demonstrations covering a series of years on any one subject.

In the discussion of this topic it seemed very clear that most of the men in attendance were agreed that a permanent record of at least the important demonstrations was very necessary. Most of the men raised the question as to how they could get the farmers and agents to assist them in keeping such a record; also the question was raised as to keeping such a record very simple or using a large amount of the stenographic help in an office.

In this discussion Director Willard of Massachusetts suggested that and outline of the record should possibly be carried by the specialist in a field note book in just as large a form as possible to be easily carried in a coat pocket. In this way, of the stenographer was overloaded with work or not properly trained, the specialist could have rather complete record from his own field notes.

Director Willard stated that he felt that a permanent record of demonstrations was very essential and that in order to have permanent records well trained stenographic help in an office was necessary and that the stemographic help should not only be well trained but should have a personal interest in the work that was being done. He stated that their plan in Massachusetts was for each stenographer to be trained in the central office before being delegated to the office of the specialist and that the stenographers were always invited to the weekly conference of the extension staff in order that they might be fully informed as to the work.

PUBLICITY METHODS FOR THE SPECIALIST

Bristow Adams, New York.

There is as great a need for specialization in writing newspaper stories as there is in connection with crops or live stock.

Newspaper publicity is a great aid to agricultural extension work, but publicity which is pure propaganda is bound to fail. Good publicity has the news feature strongly emphasized. "Space grafters" are the bane of newspaper men.

Violation of staid old rules, accuracy, brevity, and clearness - the A B Cs of newspaper writing-- are still the greatest defects of modern publicity.

The "lead" is of primary importance. Is should consist of an interesting, and perhaps striking, statement. The accepted formula is that, in the first paragraph, the questions of who, what, where, and when should be answered.

Put the human interest slant in newspaper stories and write in terms of every-day life. In news writing a plant pathologist, for instance, might better be referred to as a plant doctor.

The short paragraph of twenty or thirty words seems to get across best in agricultural publicity work.

News stories are often cut by editors; usually the cutting process begins at the bottom. The important points, therefore, should not be located in that part of the story.

Do not appear anxious to have your stuff appear in print. If your material is good you are doing the editor a real favor by letting him have it.

SUBJECT MATTER DISCUSSIONS.

(a) How Is The Corn Improvement Program Being Developed.

Massachusetts, Abbott. Corn shows and variety tests.

Maine, Gardner. Variety tests with silage corn in which we are comparing the relative value of New York Mammoth flint and variety commonly grown.

Connecticut, Owens. The two experiment stations in Connecticut represent the two extremes in agricultural conditions. The one along the shore has very light land and the other on a high elevation has heavier soil. For some years strains and varieties taken from all portions of the State have been tested at these stations. Several varieties or strains have been outstanding. Our problem then seems largely that of securing more general use of these better strains. This problem is being attempted through establishing good sources of seed for those outstanding varieties and getting farmers to use these varieties through purchasing from good seed sources. A few well chosen farms in representative sections are being used for developing seed sources. In cooperation with the pathology department we are field selecting seed, storing it carefully, and eliminating ears which do not prove satisfactory when germinated by the pathologist. Each of these steps is being advertised and used as features for demonstrations. It is planned to compare this "improved" corn with varieties which are already grown by farmers in many sections of the state.

While farmers on the higher elevations can utilize seed grown by the valley men for silage corn the valley farmers must purchase seed from farther south for best results through cooperative organizations and field demonstrations. The purchase of varieties such as Luce's Favorite, Sweepstakes and Leaming is being encouraged.

New York, Barron. Silage variety demonstrations have shown the futility of growing very large varieties which do not mature. On the average those varieties are best which in an average season would require for maturity ten days to two weeks more than they get when grown for silage. A good silage variety for any locality will mature one year out of three or four sufficiently to make good husking corn. The leading varieties of corn for silage in New York, depending on fertility, latitude, and altitude, are Leaming from seed produced in Northern Ohio, Luce's Favorite from seed produced on Long Island, West Branch Sweepstakes from northern Pennsylvania, and early dent corns from central and western New York. In all cases an attempt was made to work only with corns of which there were adequate seed supplies. In order to have adequate supplies associations and individuals have been encouraged to go into the production of seed corn of the recommended varieties. Much progress along this line has been

made with Luce's Favorite on Long Island and the early dents in central and western New York. The coming developments with silage corn consist of work in demonstrating the necessity of early planting and thinner planting.

Work with grain corns has demonstrated that in all those regions where they can be grown successfully the best varieties of early dent corn are much superior to the flint varieties usually grown. New York State farmers do not rapidly adopt the results of these demonstrations apparently because it is easier to save seed that will grow from flint corn than from dent corn. Thus they need work on seed corn. In the grain corn demonstrations, and in the silage demonstrations as well, it has always been the endeavor to try those varieties thought by local farmers to be best in the locality with the recommended varieties.

New Jersey, Cox. Corn variety work with husking corn has been carried on in this State for eight years. It was originally on a community basis and as such was of considerable value in interesting farmers in extension work. At the present time it is being conducted along two general lines. One is the community type which is designated largely to interest people in extension activities, as well as to focus attention on better corn growing processes. The other, and more important, is based largely on the idea of finding out the several best strains of corn for the county. Demonstrations of the last type are generally arranged in one or two groups depending upon conditions in the county. In 1922 there are fifty-two corn variety demonstrations scheduled in eleven counties in New Jersey.

After variety testing has been carefully conducted under the second plan for three or four years we feel justified in drawing conclusions regarding strains well adapted to the county. The plan, then, is for the county agent, specialist and project committee to review results and settle upon a certain few, perhaps two or three, strains to be recommended for the county. This has already been done in two counties and will be done in others within the next year or two. After this point has been reached the job of the extension workers is to extend the growing of these varieties. It is also important for the extension people to work with certain farmers who are growing and selling seed of the approved strains in order to keep the seed pure and reasonably free from disease.

Silage variety work is being carried on in about the same way as the second plan indicated above.

The extension agents of the State have taken an active part in community, county, and State corn shows. We are wondering, however, if false standards are being maintained with reference to shows and whether there will be a reacti against these standards in the future. It would seem that the question of shows should receive full consideration at a future conference of this group. We believe that a local utility show with classes arranged with reference to the approved strains would be of decided benefit to the community or county.

New Hampshire, Robinson. Some variety test work is being done but we have come to the conclusion that we must combine with the testing of varieties a method of connecting up with a dependable source of seed supply of the variety the tests show to be best suited to out needs.

(b) How Is The Potato Improvement Program Being Developed.

Massachusetts, Abbott. Demonstrating and securing good Northern seed; spraying and dusting.

Maine, Gardner. (1) Improved potato seed plats, using the isolated plat method. (2) Tuber unit work, to demonstrate the difference in growth and productively. (3) Hill selection, to demonstrate that standards can be maintained by proper field selection . (4) Disinfection of seed, to show that quality can be improved by using corrosive sublimate. (5) Disease-free seed centers, to develop local sources of improved seed free from disease for distribution within the community and county and ultimately as commercial seed for export. (6) Bordeaux mixture, to demonstrate the proper method of preparing this material.

Connecticut, Owens. Potato seed is very largely purchased from Maine, Vermont and New York. Much of this seed is low in productive power. We are seduring some of the highest yielding and most vigorous seed and comparing this in field tests with the quality ordinarily bought and grown.

New York, Barron. The chief work with Green Mountains has been in southeastern New York and on Long Island where strain tests have been carried on. These have shown very great differences between strains; they have also shown that where blight, Rhizoctonia, and scab were controlled those strains showing the least amounts of mosaic and leaf roll, diseases carried with the seed tuber, were the best yielders. Such tests have shown that seed from any one State or section is not uniformly good nor uniformly bad. Strain tests have called attention to some of the good strains. Many New York farmers when buying their seed have been guided by the results of the tests insofar as the seed supplies of the strains in the demonstrations would permit. Work has been carried on with farmers in the northern counties of the state, who regularly grow Green Mountains for seed purposes, encouraging them to produce only the strains which have proven best and inducing them to take up the production of certified seed.

In Western New York where Rural New York potatoes are chiefly grown strain demonstrations including those strains thought best in any particular neighborhood and also the best certified strains have shown uniformly satisfactory results. Most local seed stocks have been 10 per cent to 100 per cent diseased with leaf roll; the recommended stocks have carried very small amounts. The yields have had about the same relationship, usually in favor

of the certified stocks. In many neighborhoods the demonstrations have caused the wholesale disposal of old stocks and the wholesale buying in carloads of the disease-free, high yielding strains. Many have been encouraged to develop isolated seed plots. Now many neighborhoods have a sufficient number of such plots to insure them of good potato seed, if the work is continued, which for field planting will be but one year removed from the isolated plot. Many have also taken up tuber unit and hill selection work. Certification work has also been emphasized.

New Jersey, Cox. Extension activities in potatoes have to do largely with better seed. The plans and purposes vary according to conditions. A main purpose in all sections is to show the superiority of good seed over poor seed in vigor, type and freedom from disease. In the three central potato growing counties, which produce no seed, an important object is to show where good seed may be obtained. In south Jersey, which is a seed growing section (second croppers), the seed source demonstrations are planned with the additional purpose of showing how to produce good seed.

New Hampshire, Robinson. Demonstrating the value of certified seed potatoes and making this quality of seed available is our principle work. Fifty carefully conducted demonstrations in 1921 showed an increase in yield from the use of certified seed of 30,000 bushels for the State. A start has also been made in growing certified seed.

(c) What Kind of Extension Work Is Being Done With Lime.

Massachusetts, Abbott. The usual type of demonstration, but not being pushed very hard.

Maine, Gardner. Comparative tests to show the benefit of lime in clover production.

New Hampshire, Robinson. Some lime demonstrations are still being conducted but the principle work now being done is through publicity, keeping the idea of using lime before the farmer every season, and making certain of a source of supply.

New York, Worthen. The lime program of New York State constitutes one of six broad sub-projects covering the soil phase of the agronomy program. The field demonstrations with lime constitute an integral part of this sub-project.

In many instances lime occupies the strategic base in economic soil improvement. Clover failure is very closely associated with a lime deficiency. Because of this fact lime is considered not only a soil amendment but indirectly a nitrogenous fertilizer.

In many sections of the State the lime sub-project has passed the demonstrational stage. Farmers appreciate the need of lime and are willing to use it. They desire assistance in determining the most economic source of liming material. In some instances advice relative to developing sources of lime is desired.

Ground limestone is the form of lime most extensively used. In most sections of the State it is unquestionably the most economical form. In the simple lime demonstrations the kind and source of materials used are those recommended for the community in which the demonstrations are located. The object of the demonstration in which more than one form of lime is used is not to determine which form is best but rather to demonstrate that any liming material will give sarisfactory results.

Pennsylvania, Dickey. Demonstrations showing the value of lime seem in the main unnecessary. Demonstrations comparing the different forms of lime are frequently called for but are discouraged.

The use of free lime furnished by the lime association is a questionable procedure. Materials furnished free from local sources are not so objectionable, especially where some inducement to use an unproved local material, such as marl, is necessary.

One form of lime demonstration which is profitable and satisfactory is that showing the value of some local or most economical source against which there is a popular prejudice.

The problem in Pennsylvania, as elsewhere, is not so much to show the value of lime but to get lime cheap enough to be attractive. Consequently considerable time has been put on investigating and advertising the possibilities of local sources, such as marl (of which we find numerous deposits about which farmers knew nothing), by-products of manufacturing plants, and limestone which may be of high enough quality to pulverize. Demonstrations of the value of such material are often necessary.

The success of small pulverizers in farmers' hands has been a subject of investigation as opportunity offered, also a study of different types of machines and their special adaptation to different types of stone so that farmers can be intelligently advised regarding the feasibility of pulverizing under various conditions, such as distance from shipping points or commercial sources, ease of quarrying, analysis and hardness of stone. Several groups of farmers have been discouraged from attempting pulverizing but other groups and individuals have been encouraged and advised regarding orgainzation and machinery.

The limestone storage house idea and its desirability has been explained at farmers' meetings as has also been the greater economy of purchasing limestone in bulk rather than sacked.

Soil testing for acidity on the part of county agents by the Truog method has been urged and its value explained to farmers. In some sections where lime has been used heavily in the past testing shows that many farmers are not warranted in the immediate purchase of lime. In some sections testing campaigns have been conducted, especially in connection with alfalfa propaganda. The samples are sometimes collected and brought in by community committeemen who

pledge themselves to secure samples from five or more neighbors. The psychological effect of some sort of a soil test both on the farmer and on they county agent has been good and has led to greater interest and confidence.

(d) What Kind of Extension Work Is Being Done with Soil Improvement Crops.

Massachusetts, Abbott. Very little. Some timothy cover crops on tobacco land.

New Jersey. Several types, including value of cover crops and cover crop comparisons.

(e) Extension Work On Miscellaneous Soil Improvement Projects.

Maine, Gardner. Comparative demonstrations with manure and manure supplemented with acid phosphate. This is part of the manure conservation plan.

New York, Worthen. The lime discussion expanded into a more or less general presentation of the broad subject of soil improvement. The statements made relative to the practices advocated in New York can be summed up as follows:

Supply first the essentials for red clover production. This generally means limestone and acid phosphate. A ton or more of limestone and acid phosphate at the rate equivalent to 200 pounds annually are extensively recommended.

The short rotation is advocated with clover or other legume crops once every three to five years.

The careful conservation and efficient utilization of farm manure are receiving constant attention as part of this program.

Where potatoes, cabbage, sweet corn, or other similar cash crops are grown, a complete fertilizer is advocated unless manure and acid phosphate are applied directly to such crops. The liberal fertilization of the cash crop at the expense of the grain crops in rotation is advocated.

Where complete fertilizer is used, home mixing is encouraged. The use of standard materials is recommended for grain and forage crops in preference to either factory or home-mixed goods. The use of low-analysis mixed fertilizer is vigorously discouraged.

Where timothy is grown more than one year on the same land, a top dressing with manure or nitrate of soda, or a high nitrogenous mixed fertilizer is urged.

New York, Barron. In New York State the fertilizer demonstrations have shifted from work with individual crops to work on the rotation or cropping

system. In other words it is not a question of how to fertilize corn or potatoes but how to fertilize and adequately manage the fertility question on a rotation in which these crops are grown.

Encouragement is also not given to complicated fertilizer trials, tests, or demonstrations. The plan has been to eliminate comparisons of various kinds of fertilizer and varying quantities of the same fertilizer. In all cases it has not been possible to eliminate such comparisons. Sometimes it is, for instance, necessary to put out plots of lime, lime and acid phosphate, and lime, acid phosphate and manure, in comparison with a check. Some farmers need convincing in regard to each step in the process. In the main, however, New York farmers will take a specialist's recommendation and give it a trial.

The farmers in the dairy regions usually follow a four or five year rotation of crops: potatoes or corn, oats and hay two or three years. When they plant oats they use a low grade fertilizer. They leave the meadows alone except to harvest the hay crops. When preparing the land for corn or potatoes they manure it heavily and use more low grade fertilizer. The demonstrations in these cases have consisted of getting a farmer to try the recommended method on an acre or more beginning with the oat crop. The demonstration area when planted to oats is treated with limestone at the rate of one ton per acre and with 200 to 400 pounds of acid phosphate. During the fall or winter after oat harvest, the new seeding is top dressed with stable manure at about one-half the rate usually employed on corn. If meadows are left down only two years they get no further treatment. If left more than two years they are top dressed each subsequent spring with 100 pounds nitrate of soda and 100 to 200 pounds acid phosphats per acre. When the land is plowed for corn it receives about one-half the quantity of stable manure usually employed and 200 to 400 pounds of acid phosphate.

The demonstration areas when compared with the checks show approximately the following increases per acre:

First hay crop, 2500 pounds increase (on the checks the hay is mixed, mostly grass, little clover. On the demonstration area the whole crop including the increase is mostly clover).

Second and third hay crops, 2000 pounds increase.

corn	3 tons silage
potatoes	50 bushels
oats	5 bushels

The demonstration is a success because it grows clover in abundance rather than indifferent mixed hay; it produces second and third crops of hay in abundance; it uses no more manure than the usual rotation; it adds more organic matter to the soil than the usual practice, because in addition to the usual quantity of manure it adds a much heavier sod to the land; it spends little or no money for outside sources of nitrogen; it utilizes the potential potash of

the soil; it recognizes the chief deficiencies of the soil.

Pennsylvania, Dickey. Work with fertilizers has been confined largely to meetings where the advantage of high grade fertilizers and home mixing were explained. The economy of purchasing only such elements as are really needed and the doubtful profits to be derived from nitrogen and potash on corn, oats and wheat where manure is applied is also urge . A few demonstrations with mixed fertilizers compared to phosphate have been put on where demanded, the object being always to try to show the error of some common practice. Where the idea was simply a test or where fertilizer practice seems rational it seems best to discourage this sort of work.

Top dressing of timothy sods with nitrogen and phosphoric acid was demonstrated in thirtee n counties last year and seems a good line of work. Field meetings were held on many of these demonstrations.

There has been considerable demand for demonstrations and advice along pasture improvement line. About 80 demonstrations were arranged for in 25 counties last spring. This work consists largely of top dressing with different combinations of fertilizers, lime and manure and harrowing in seedwhere there are few or no economic grasses. Where put on early and not pastured closely these demonstrations have shown up well and some field meetings have been held. Lime and phosphate seem about equally important, manure gives better and quicker results where used in addition to lime and phosphate. Nitrogenous fertilizer seems too expensive and short lived and is no longer recommended. Numerous requests for advice on soil treatment and seedings for run down pastures have been taken care of and an extension circular published on the subject.